

REMARKS

The rejections of Claims 1 through 6 and 8 as being anticipated by Eckhouse et al '273 under 35 U.S.C. §102(b) are respectfully traversed. Furthermore, the rejection of Claim 7 as being unpatentable based upon Eckhouse et al '273 under 35 U.S.C. §103(a) is also respectfully traversed.

The disclosure in Eckhouse does not disclose or teach the following elements of independent method Claim 1:

a) controlling the flashlamp to sequentially emit a series of pulses of incoherent light energy, each having a pulse width in the range of ½ ms to 10ms; and

b) pulsing the flashlamp at least two times through the optical delivery system at a wavelength in the range of 550 to 1200nm, at a power level in the range of 4 to 25 Joules/cm², each pulse having a duration in the range of ½ to 10 milliseconds, a delay between pulses in the range of 1 to 10 milliseconds, and having a beam diameter on the treatment area in the range of 4 to 50 millimeters.

The Eckhouse et al prior art reference discloses a flashlamp apparatus for the treatment of unwanted hair follicles. In Eckhouse, there is no teaching of a pulse width in the specific range of ½ ms to 10ms, as claimed by applicant. Eckhouse's Claim 4 states "at least one pulse having a width of less than 200 milliseconds." Claim 1 of the present invention clearly states that there are a series of pulses each having a duration in the range of ½ms to 10ms. Eckhouse clearly does not recognize the advantages of the present

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invention of employing a limited pulse duration of ½ms to 10ms. This avoids burns because the improved flashlamp method supplies a series of short pulses of flashlamp energy with short delays between the pulses from the flashlamp to heat a hair follicle and hair follicle shaft to cause permanent damage to that hair follicle and shaft, and yet spare the skin from burning, thus providing a safe and permanent method of hair removal.

Eckhouse does not recognize or teach the criticality of applicant's claimed parameters for achieving the result of permanent hair removal without burning the skin.

The Eckhouse method discloses a delay between pulses having a range of 5 to 200 milliseconds between pulses. Claim 1 of the present invention has a more restrictive range for the delay between pulses of 1 to 10 milliseconds. If the delay is longer, the hair cools too much, and will not be permanently removed. Eckhouse does not recognize the advantages of the present invention of employing a limited pulse delay between pulses of 1 to 10 milliseconds for a more effective method of permanent hair removal from the skin of a patient when using the flashlamp of the present invention. Also, this avoids burns because the improved flashlamp method supplies a series of short pulses of flashlamp energy with short delays between the pulses from the flashlamp to heat a hair follicle and hair follicle shaft to cause permanent damage to that hair follicle and shaft, and yet spare the skin from burning, thus providing a safe and permanent method of hair removal.

Eckhouse does not recognize or teach the criticality of applicant's claimed parameters for achieving the result of permanent hair removal without burning the skin.

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The disclosure in Eckhouse does not disclose or teach the following elements of independent method Claim 2:

a) controlling the flashlamp to sequentially emit a series of pulses of incoherent light energy, each having a pulse width in the range of 1/2ms to 10ms; and

b) pulsing the flashlamp to have a pulse delay between each of the pulses less than the thermal relaxation time (TRT) of the patient's hair in order to remove the patient's hair and in order to avoid burning of the patient's skin, the pulse delay between each of the pulses being less than 10ms.

The Eckhouse et al prior art reference discloses a flashlamp apparatus for the treatment of unwanted hair follicles. In Eckhouse, there is no teaching of a pulse width in the specific range of 1/2 ms to 10ms, as claimed by applicant. Eckhouse's Claim 4 states "at least one pulse having a width of less than 200 milliseconds." Claim 2 of the present invention clearly states that there are a series of pulses each having a duration in the range of 1/2ms to 10ms. Eckhouse clearly does not recognize the advantages of the present invention of employing a limited pulse duration of 1/2ms to 10ms. This avoids burns because the improved flashlamp method supplies a series of short pulses of flashlamp energy with short delays between the pulses from the flashlamp to heat a hair follicle and hair follicle shaft to cause permanent damage to that hair follicle and shaft, and yet spare the skin from burning, thus providing a safe and permanent method of hair removal.

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Eckhouse does not recognize or teach the criticality of applicant's claimed parameters for achieving the result of permanent hair removal without burning the skin.

There is no teaching in the Eckhouse method of employing a thermal relaxation time (TRT) for the pulse delay between each of the pulses being less than 10 milliseconds, as claimed by applicant. Eckhouse states (see column 4, line 31 to 33) "When the gel is so applied the typical cooling time of the hair will be on the order of 200 milliseconds and that of the epidermis will be on the order of 5 milliseconds." Claim 2 of the present invention claims that the TRT between pulses is less than 10ms for cooling the hair of the patient being treated, but not cooling too much. Again, Eckhouse clearly does not recognize the advantages of the present invention of employing a limited pulse delay between each of the pulses being less than 10ms. Also, this avoids burns because the improved flashlamp method divides the flashlamp energy delivery into multiple, individually adjustable pulses, with an adjustable short delay between the pulses, which allows it to achieve permanent hair removal without burning the skin on both light and dark skinned patients having either fine or coarse hair. In the present invention, the pulse repetition rate (the delay between pulses) is less than the thermal relaxation time (TRT) of the hair being treated, so that the hair does not have time to dissipate its heat and cool down between pulses.

The disclosure in Eckhouse does not disclose or teach the following element of dependent method Claim 3:

a) a pulse width having a range of 2 to 6 milliseconds in duration.

There is no teaching that the Eckhouse method of treatment includes a pulse width in the range of 2 ms to 6ms, as claimed by applicant. Eckhouse's Claim 4 states "at least one pulse having a width of less than 200 milliseconds." The present invention clearly states there are at least two or more pulses having a duration in the range of 2ms to 6ms, whereas in Eckhouse there is no range limit actually given for two or more pulses.

The disclosure in Eckhouse does not disclose or teach the following element of dependent method Claim 8:

a) a delay between pulses having a range of 3 to 6 milliseconds in duration for a sequence of three pulses.

There is no teaching that the Eckhouse method of treatment of unwanted hair follicles includes a series of pulse delays in the range of 3 to 6ms in duration for a sequence of three (3) pulses.

The disclosure in Eckhouse does not disclose or teach the following element of dependent method Claim 7:

a) a delay between pulses having a range of 2 to 4 milliseconds in duration for a sequence of two pulses.

There is no teaching that the Eckhouse method of treatment of unwanted hair follicles includes a series of pulse delays in the range of 2 to 4ms in duration for a sequence of two (2) pulses.

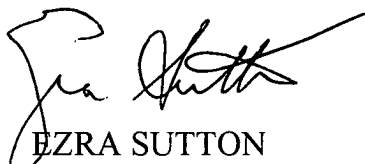
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As stated above, Eckhouse does not recognize or teach the criticality of applicant's claimed parameters (of pulse width and pulse delay) for achieving the result of permanent hair removal without burning the skin.

For these reasons, it is respectfully submitted that applicant's independent Claims 1 and 2 patentably distinguish over the prior art, as well as the Claims which depend therefrom.

Respectfully submitted,

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